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## ABSTRACT

Cost effective approaches for providing services, modifications, and technological devices for disabled college students are discussed. Attention is directed to planning strategies, considerations for determining cost effectiveness, and a variety of ideas actually in use on U.S. campuses. It is noted that the key to cost effectiveness is long range planning. Questions are identified that should be asked about a new or continuing service, product, or device. Programs are described that illustrate specific practical ideas that have been successful and cost effective. Contact persons are listed with each idea. The programs concern: transportation, targeted fund raising, low technology aids, a way to summon help for quadriplegic individuals, peer counseling, attendant care, a vibrating alarm for hearing impaired students, wireless frequency modulated amplification, volunteer readers, and efficient use of readers and interpreters. An annotated bibliography of eight selected resources is also included. (SW)

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# COST EFFECTIVE IDEAS FOR SERVING DISABLED STUDENTS ON CAMPUS

1985-86 Edition

Awareness of the needs of disabled people on postsecondary campuses and responsive actions to meet those needs have expanded during the last decade. With increasing costs and continuing budget cuts, administrators are confronted with the need to provide services and programs, but lack the funds to implement them adequately. Often the well-meaning solution suggested to resolve this conflict is "be creative" implying that creativity and low cost are synonymous. However, it is not necessary to be creative in order to provide cost effective programs and services. The HEATH Resource Center finds that such programs are a product of long range planning, research, and comparison of alternatives. Since 1977 the HEATH Resource Center has gathered information about services, facilities, modifications, technological devices, aides, procedures and policies on American campuses which have proven successful in assisting qualified disabled people to participate effectively in higher education. This fact sheet, **Cost Effective Ideas for Serving Disabled Students on Campus**, identifies planning strategies, outlines considerations for determining cost effectiveness, presents a variety of ideas actually in use on American campuses, and concludes with selected annotated resources.

## PLANNING

Colleges and universities, experienced in serving disabled students, report that the key to cost effectiveness is long range planning.

These institutions have a commitment to do so from the highest levels of administration. The Board of Trustees and the president set the tone of commitment and facilitate the development of a cost effective plan. Administrators from accessible campuses report that successful implementation of these plans often depends on the presidential appointment of a key person responsible for coordinating the work. That key person may operate out of one of a variety of offices: the president, student services, facilities management, health, academic affairs, or resource development, and reports back to the president directly.

On accessible campuses the key person involves as many divisions of the institution as possible in the planning. Minimally, this includes divisional representation from admissions, financial aid, career planning, faculty, student government, and from disabled students themselves. A campus planning group would be enhanced by representatives of community groups such as the state Vocational Rehabilitation Administration, mayor's or governor's Committee on Employment of the Handicapped, local major employers, community service groups and local organizations of aid for disabled persons.

The planning group, under the leadership of the appointed key person, gathers and shares information, determines broad policies and procedures, and assures coordination of efforts since it reflects such a wide spectrum of campus and community resources

and interests. With such a planning group in place, experienced institutions find that many services, aides, modifications, and facility adaptations can be provided through existing channels, a particularly cost effective practice. For example, instead of establishing a separate career planning, tutoring, or dormitory program for disabled students, existing programs can be effectively used by briefly retraining the staff or by demonstrating adaptations in regular office practices and procedures. Similarly, resources already established in the community, such as Volunteer Readers for the Blind, can be used to advantage, rather than duplicative efforts of providing a separate campus based service.

## CONSIDERATIONS FOR COST EFFECTIVENESS

Cost effectiveness of a particular program is not always obvious or easy to determine. A program, service, modification, technological device, or policy may require budgetary investment and yet be cost effective. Ideas which necessitate substantial initial costs, may reflect savings for an institution by reducing annual costs, or may project major savings over a long range period, or may generate increased revenue over time. Other ideas may appear to be relatively inexpensive to implement by using volunteers or donated items, but may present hidden costs because they may not necessarily meet the requirements of the task. Determining the actual cost effectiveness of a program may take

some close scrutiny and planning. The following questions are among those that should be asked of a new or continuing program:

**If it is a product, device, or service . . .**

Is it effective?

Will it do the necessary task?

Will it create management problems?

How many people can use it?

Can more than one person use it at the same time? Consecutively? Over time?

Can it be used by others than those for whom it was originally intended?

Can it be used by the community as well as the campus population?

Have policies been established to prevent abuse?

**If it is a service . . .**

What has been the experience of other similar institutions? Have pitfalls been identified and resolved? How?

Is there an existing service already on campus or in the community that could be utilized in lieu of instituting a new service?

**If it is a product or device . . .**

What are the alternatives?

Is it available through specialized outlets only, or through the regular technological channels?

Was it designed for a specific purpose?

Are others available which could serve several purposes as well?

Can it be constructed in house, e.g. physical plant personnel, Engineering department, art department?

How long will it last?

## **SELECTED COST EFFECTIVE IDEAS**

The programs described below illustrate specific practical ideas that have been successful and cost effective. They are only one component of the overall program to provide physical and program access for students and others with disabilities at these institutions. Contact people listed with each idea who have agreed to serve as a resource may be called upon to assist in developing cost effective ideas at your institutions.

## **Transportation Program**

A transportation program for handicapped students and members of the community was initiated by a volunteer group of Fort Hays State University students and Hays community people, many of whom were a part of the University Handicapped Committee. Through an agreement with the Kansas Easter Seal Society, the committee was able to obtain the use of a van, secure local funding, hire students as drivers, and thus cut cost to users to a minimal \$.50 per ride. Contact Dr. Bill Jellison, Vice President for Student Affairs, Fort Hays State University, Picken Hall, Hays, KS 67601. (913) 628-4276.

## **Targeted Fund Raising**

Augsburg College was able to implement major architectural changes such as a tunnel, skywalks, elevators, and ramps through a fundraising campaign targeted to 275 Lutheran churches of the Southeastern Minnesota District. Contact Mr. Gerald D. Bjelde, Vice President for Development, Augsburg College, 731 21st Avenue South, Minneapolis, MN 55454. (612) 330-1183.

## **Low Technology Aids**

To teach visually impaired students the structure of chromosomes and cell division, a clay and seed model was devised at central Piedmont Community College. Clay was formed into pods representing chromosomes and various seeds were attached to the clay pods to represent genes. The visually impaired student was able to cut the clay pods as well as the seed to show chromosome division and gene function. Contact Costas S. Boukouvalas, Director Special Service, Central Piedmont Community College, P.O. Box 35009, Charlotte, NC 28235-5009. (704) 373-6739.

## **Summon Help**

The University of Wyoming has devised a system to allow quadriplegic individuals to summon

help from their beds in the event that they are not able to use telephones from bed or in emergency situations. An electric light, buzzer, or alarm mounted outside of the student's door is connected to a pressure sensitive switch that may be activated by the student. In the event that the alarm signals, housing staff may enter the room to investigate. Contact the Director of Housing, University of Wyoming, Laramie, WY 82011.

## **Peer Counseling**

Disabled students at Queens College are trained and hired to work as an integrated part of the SEEDS (Services to Enrich the Education of Disabled Students). They are paid on an hourly basis and work five hours a week to counsel other disabled students. The peer counseling program provides work experience for the students and has at the same time proven effective to the counselee, who receives help from another student who shares similar experiences. The peer counseling program was designed to supplement the professional staff which has been limited by dwindling resources. Contact Gail Uellendahl, Director Special Services, Queens College, Kissena Blvd., Flushing, NY 11367. (212) 520-7636.

## **Attendant Care**

While the institution is not required to pay for the personal care that an attendant provides to a disabled student, it frequently needs to assure students who need attendants that such assistance will be available. University of Southern Mississippi purchased and renovated a residence hall for male students. The renovated hall includes accommodations necessary for quadriplegic students. The nearby Mississippi School for the Mentally Retarded trained some of its qualified students to be attendants for individuals. These attendants are paid by the State Vocational Rehabilitation Administration. Contact Ann Jordan, Associate Dean, University of Southern Mississippi, Southern Station Box 5071, Hattiesburg, MS 39401, (601) 266-4252.

## **Vibrating Alarm System**

Winthrop College was among the 47 winners of the 1981 NACUBO/United States Steel Foundation Cost Reduction Incentive Award for installing a vibrating alarm for hearing impaired students. Fire protection for persons with impaired hearing often may not receive adequate attention at institutions because conventional systems of flashing lights or fans tied to the existing alarm system are expensive. Winthrop College solved the problem by issuing a vibrating pager unit to those people with impaired hearing. The units are connected via base radio to the existing pull box alarm system. Thus, when any alarm is pulled, the individual's pager vibrates. The initial investment was 21 times LESS than the initial costs of a flashing light system and maintenance and inventory are far less costly than an alternative system. Initial savings amounted to \$144,000 and annual maintenance savings are estimated at \$4000 a year. The greatest value, however, lies in the increased safety factor for those with impaired hearing. Contact Steve Warren, Resident Construction Engineer, Winthrop College, Rock Hill, South Carolina 29733 (803) 323-2211.

## **Wireless Frequency Modulated (FM) Amplification**

A wireless FM system, a device which uses FM radio transmission to send the instructor's voice directly to FM receivers coupled to a student's hearing aid, is being tested at National Technical Institute for the Deaf (NTID) at Rochester Institute of Technology (RIT), San Diego State University, and elsewhere. Many deaf students have some useful residual hearing and the device makes best possible use of that hearing by amplifying the speaker's voice and not the classroom's background noise. A unit (one transmitter, one receiver, and accessories) costs about \$800. This device, however, most often can't be used in lieu of interpreter services because comments from other

students in the class are not heard through FM transmission. A ten minute videotape entitled, "When I Can Listen I Can Learn: FM Listening Systems," is available through Karen Hopkins, Manager of Training and Media Services for \$40.00 (includes cost of videotape and mailing). Specify either 3/4" cassette or 1/2" VHS cassette. Contact Shannon Turner, Disabled Student Services, San Diego State University, San Diego, Ca 92182; or Jaclyn S. Gauger, Communication Assessment and Advising, NTID/RIT, Box 9887, Rochester, NY 14623.

## **Volunteer Readers**

A number of colleges and universities have been using volunteer readers for blind, visually impaired, and other people who cannot read print. San Francisco State University and Appalachian State University have been successful in recruiting, training, and gaining the time commitment from older adults from the surrounding area. The readers work both on campus with students individually and off campus reading material onto tape for future use by students and others. Some of the readers are also used to assist in administration of standardized and/or classroom tests. Appropriate training of readers which emphasizes living with a disability, methods of reading and recording print materials, and the significance of commitment to their assignments has, on the whole, led to a high degree of conscientiousness on the part of the volunteers and satisfaction for the students requiring readers. Contact Cindy Kolb, Director, Disabled Student Services, San Francisco State University, San Francisco, CA 94132. (415) 469-2472; Barbara Daye, Assistant Vice Chancellor for Student Affairs, Appalachian State University, Boone, NC 28608. (704) 262-2060

## **Efficient Use of Readers and Interpreters**

George Washington University is making a concerted effort to

maximize the efficient use of readers and interpreters. A student who requests unlimited reader service is first interviewed in depth to determine whether any of the requested reading matter is already available on tape, whether or not a community service (The Washington Volunteer Readers for the Blind) can expeditiously record texts or articles, whether or not a student can be trained to use appropriate assistive technological devices (such as the Optacon, Kurzweil Reading Machine, or Visual-tek). A student may be encouraged to improve personal study skills so that the daily study needs for reader services can be reduced. A student who indexes and "takes notes" on tape can study more independently than one who depends on a reader to locate specific study material, read it, and then review it for the student.

Hearing impaired students who need interpreters are also encouraged to use these aides wisely. Where possible, students taking the same course are encouraged to enroll in the same section thereby needing only one interpreter at that time. The University employs at least one staff interpreter who works half time and receives prorated benefits. Staff interpreters are used for those occasions when less than the usual two hour minimum is required - for conferences, meetings, interviews, and especially in the large complex or hospitals and other graduate schools in which this University is located. Used for these purposes, the salary/benefits save money for the University over the hourly rate regularly charged. The time of the interpreter-coordinator is also saved to do other things by having a staff interpreter available for short term jobs. The University has established a policy for student responsibility regarding the use of interpreters. Areas covered in the policy include identifying who is responsible for paying the interpreter if the student drops a class, cuts a class, changes a section, and other areas of possible concern. Contact Linda Donnels, Assistant Dean of Educational Services, George Washington University, Washington, DC 20052. (202)676-8250.



## SELECTED RESOURCES

### **Cost-Effectiveness/Benefit Analysis of Postsecondary Vocational Programs, Indiana University (1979)**

This is a systems analysis technique which includes an evaluation method and planning tool for vocational programs. The three part technique includes a technical report, an administrator's manual, and a set of practicum materials. Order by number SN23, at a cost of \$10.00 for the set, from National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210.

### **Cost Reduction Incentive Awards NACUBO/USSE, National Association of College and University Business Officers (published annually)**

The booklet describes in detail the annual winners of the Cost Reduction Incentive Awards presented by the NACUBO/United States Steel Foundation. Each year about 50 institutions receive awards ranging from \$100 to \$10,000 in recognition of outstanding cost reduction programs (not specific to the needs of disabled students) implemented during the calendar year. The booklet is available from NACUBO, One Dupont Circle, Suite 510, Washington, DC 20036.

### **Management of Accessibility for Handicapped Students in Higher Education, National Association of College and University Business Officers (1981)**

This management guide for addressing accessibility related issues during the 1980's consists of four parts: 1) Overview of Planning based on a series of site-visits and interviews with administrators; 2) Characteristics of Handicapped Population- an assessment of extant data bases; 3) Data on Facilities Modification Expenditures; and 4) A Prototype for an Assistive Device Directory for colleges and universities. Copies have been distributed to presidents of American colleges and universities. Contact them for a copy. Individual copies are available for \$6.00 from Superintendent of Documents, U. S. Government Printing Office,

Washington, DC 20402 (Stock No. 065-000-00108-0).

### **Steps Toward Campus Accessibility (1979), Creating An Accessible Campus (1978), Adapting Historic Structures for Accessibility (1980), and Modifying the Existing Campus Building for Accessibility (1981), Association of Physical Plant Administrators**

These books consist of articles and photo-essays reporting on ways colleges and universities have overcome barriers to handicapped persons. Architectural modifications, awareness programs, transportation services, accessibility maps, instructional aids and problem solving systems are methods of overcoming barriers covered in the books. For ordering information contact Association of Physical Plant Administrators, 1446 Duke Street, Alexandria, VA 22314-3492. (703) 684-1446.

### **Teaching Chemistry to Physically Handicapped Students, Kenneth M. Reese, Editor, American Chemical Society (1981)**

This booklet addresses the needs of disabled students in the science classroom and laboratory. Mobility, vision and hearing impairments are discussed. The booklet also includes a section on testing and evaluation, sources of information and bibliography. Techniques such as raised-lined drawings for use with visually impaired students are described. This booklet is available at no cost through the American Chemical Society, 1155 Sixteenth Street, NW, Washington, DC 20036 (202) 872-37.

## AVAILABLE FROM HEATH

### **Federally Funded Programs for Disabled Students: A Model for Postsecondary Campuses, by Wm. R. Anderson, Rhona C. Hartman, and Martha Ross Redden, American Council on Education (1981)**

The monograph summarizes the development, activities, and services on fourteen campuses and one higher education association which were carried out between 1975-1980. Recommendations for an Effective Program are included. The 80 page

book is available at no cost from the HEATH Resource Center.

### **Higher Education and the Handicapped 1985-86 Resource Directory, compiled by Maxine T. Krulwich and edited by Rhona C. Hartman**

Contains an annotated listing of about 100 national organizations which can provide information or materials of interest to those concerned with postsecondary education for handicapped individuals. In addition, the Directory includes a brief discussion of relevant legislation, the contact data for the 10 U.S. Department of Education Regional Technical Assistance Offices for Civil Rights, and a toll-free telephone directory for organizations of interest to those who work with postsecondary education and training of disabled persons. Single or multiple copies are available at no cost from the HEATH Resource Center.

### **Institutional Funding Resources to Serve Disabled Students on Campus, 1985 Edition, by Edward F. Duffy**

A paper prepared especially for the HEATH Resource Center several years ago and updated this summer. Based on his experience in the development of campus resources at several postsecondary institutions, Duffy outlines the process for including disability related access into campus-wide fundraising. He includes a wealth of governmental and private funding resources as well as specific steps to take in writing a good proposal. Single copies of the Duffy paper are available free from HEATH.

### **Cost Effective Ideas for Serving Disabled Students on Campus was prepared by Susan Bardellini Forman and Rhona C. Hartman with assistance from Michael Zimmerman, February, 1983 and updated in 1985.**

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## HEATH PUBLICATIONS LIST

The HEATH Resource Center operates the National Clearinghouse on Postsecondary Education for Handicapped Individuals. HEATH is an acronym for Higher Education And The Handicapped. Support from the United States Department of Education enables the Center to serve as an information exchange about educational support services, policies, procedures, adaptations, and opportunities on American campuses, vocational-technical schools, adult education programs, independent living centers, and other training entities after high school. The Center gathers and disseminates this information so that disabled people can develop their full potential through postsecondary education and training if they choose.

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### FACT SHEETS

- \_\_\_ Access to the Science Lab and Classroom
- \_\_\_ Audiovisual Materials
- \_\_\_ Career Planning and Placement Strategies
- \_\_\_ Community Colleges—Concerns and Resources
- \_\_\_ Cost Effective Ideas (*for administrators*)
- \_\_\_ Education Beyond High School—The Choice is Yours
- \_\_\_ Education For Employment (*Vocational Education*)
- \_\_\_ Financial Aid and Disabled Students
- \_\_\_ Hearing Impaired Students in Postsecondary Education
- \_\_\_ Learning Disabled Students in Postsecondary Education
- \_\_\_ Make the Most of Your Opportunities (*for students*)
- \_\_\_ Measuring Student Progress in the Classroom
- \_\_\_ Opportunities after High School for Severely Handicapped Persons
- \_\_\_ Strategies for Advising Disabled Students
- \_\_\_ Vocational Rehabilitation Services—A Student Consumer's Guide

### OTHER RESOURCES

- \_\_\_ HEATH Brochure
- \_\_\_ HEATH 1985-86 Resource Directory  
Bulk copies of the Resource Directory are available, if you indicate specific use such as:  
\_\_\_ workshop  
\_\_\_ faculty development  
\_\_\_ parent center  
\_\_\_ conference  
\_\_\_ student resource room  
\_\_\_ other (*specify*)
- \_\_\_ How to Choose a College: Guide for the Student with a Disability  
Bulk copies of the Guide are available, if you indicate specific use such as:  
\_\_\_ workshop  
\_\_\_ faculty development  
\_\_\_ parent center  
\_\_\_ conference  
\_\_\_ student resource room  
\_\_\_ other (*specify*)
- \_\_\_ Newsletter Subscription
- \_\_\_ Newsletter back issues as available
- \_\_\_ State Resources List (indicate which state)

Single copies of HEATH materials are free to those who request them. Permission to duplicate HEATH material is not necessary and is definitely encouraged. All HEATH publications are available on cassette from the Regional Libraries of the National Library Service for the Blind and Physically Handicapped.

Please mail back to the HEATH Resource Center, One Dupont Circle, Suite 670, Washington DC 20036-1193.

Name \_\_\_\_\_ Check the one that best identifies you

Address \_\_\_\_\_  
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\_\_\_ Disabled Person or Advocate  
 \_\_\_ Teacher/Instructor  
 \_\_\_ Administrator  
 \_\_\_ Counselor  
 \_\_\_ Other (*specify*)